Handlebar Installation Instructions

This document provides the step-by-step procedures for removing and replacing the handlebars on your Harley-Davidson Road King motorcycle. Although this procedure may make use of additional components not necessary for every installation, the same general steps apply. *Word of Advice: Buy both the Harley Davidson Service Manual and Parts Manual for your model-year bike and have them on-hand. These are invaluable tools for explaining everything having to do with maintaining and servicing your bike. The Parts Manual is also great for showing how things come apart and go back together.*

Now for the parts list. To really finish off your installation, you may wish to consider replacing your stock painted switch housings, clutch perch lever assembly, and brake master cylinder lever assembly with chrome versions. These instructions are written with the assumption that you will be replacing the clutch perch/lever assembly, the brake master cylinder/lever assembly, the switch housings, and the front brake hose assembly. Because my 2003 Road King Classic came equipped with cruise control, I was forced to buy HD "Ultra" chrome switch housings; if you do not have cruise control, consider buying your components through your favorite aftermarket supplier of parts & accessories as you could probably save some money. Optionally, you may wish to replace the throttle/idle cables and the clutch cable with steel-braided versions as well, but since I chose not to do that at this time, the replacement of these particular components is not covered in this document. However, I've included the HD part numbers below for your benefit. Some of the numbers listed below are for year 2002 and newer and you should verify the part numbers for your model year bike. If you don't know it already, Wild-1 recommends the use of a single riser clamp for their bars, to add strength and rigidity. After-market versions can be purchased for around $15.

Parts List:

Part Number	Description
45281-99	Chrome Clutch Bracket and Master Cylinder Reservoir Kit
45075-96	Chrome Hand Control Lever Kit
70228-96A	Chrome Switch Housing Kit
45212-97B	Front Stainless Steel Braided Brake Line Kit
38660-00A	Stainless Steel Braided Clutch Cable
38677-02	Stainless Steel Braided Throttle and Idle Control Cable Kit

Preparation

The very first thing you want to do is protect your paint! It's very easy to drop a wrench on a fender or tank and quickly add some unwanted "character" to your bike. Also, since you will be replacing the brake lines and master cylinder, you don't want to discover that brake fluid makes a great paint remover. I recommend first cutting a plastic garbage or leaf bag into two sheets. Drape one over the tank and one over the front fender. Follow this with something soft, such as a towel or blanket. Before disassembling anything, disconnect your battery (safety first!).

Disassembly

Loosen the adjustments for your throttle and idle cables to give you the "slack" necessary in preparation for removing the throttle sleeve and lever assembly. Also loosen the adjustment for your clutch cable. You may want to loosen (or remove) the screws from the switch housings on both sides to give you the free play needed to get the clutch perch and brake lever assemblies removed. Remove the clutch perch assembly from the handlebars and disconnect the cable

from the lever. Retain the white Teflon bushing, as you will need it to connect the clutch cable to the new clutch lever assembly.

Assuming you'll be replacing the brake master cylinder, begin by draining the brake fluid from the cylinder and brake lines. Although there are a number of specialized tools for this, I simply removed one of the lower brake lines from the caliper, placed it into a plastic soda bottle, and pumped the brake lever until no more fluid would come out. Remove the master cylinder cover to speed up the process and to ensure it empties out completely. You will want to use some shop towels to soak up the remaining fluid in the cylinder chamber, as there is sure to be some residue. Replace the cylinder cover to prevent any residual leakage and to prevent foreign objects from getting into the master cylinder. Disconnect your brake line from the master cylinder, being ready to soak up any fluid still in the hose. You may want to keep the end of the hose covered with a plastic bag to help catch any fluid that continues to seep out.

You can now remove the brake master cylinder/lever assembly from the handlebars. Disconnect the lower brake line from the opposite brake caliper. As before, put the end of the hose into a suitable container to catch fluid drainage. Once all fluid is drained from the brake lines, you can remove the entire hose assembly from the bike. Keep both front calipers wrapped in a shop towel or plastic bag to absorb/catch any brake fluid that may continue to seep.

If you haven't already, remove the screws from the switch housings to separate the upper and lower halves. Remove the throttle & idle cables from the throttle sleeve and slide the sleeve off the handlebars. Be careful when disconnecting the cables that you don't lose the brass barrels that hold the cable ends in the sleeve. Remove the cables from the lower switch housing, making note of which cable goes into which hole on the housing; you may want to tag each cable with a piece of masking tape. Removing the cables from the lower switch housing may take a bit of persuasion as they are held by a spring retaining clip inside the housing. I used a pair of dull wire cutters, carefully slipping the edges of the cutter tangs under the lip of the cable fitting where each one enters the housing. Squeezing some pressure on the pliers (but not so much you try to "cut" the fitting), use a prying motion to lift the fitting straight out of the housing.

Carefully remove the plastic bezel that surrounds your fork lock. Remove the two screws that are uncovered once the bezel is removed. Remove the trim ring from your headlight housing (single screw at the bottom). Pull out on the bottom of the ring then up and out on the top of the ring to remove it. Remove the screws along the outside of the headlight assembly (they are the ones that pass through small rubber grommets in the chrome nacelle). There is no need to remove or adjust the headlight aiming screws. Unplug the light assembly from the harness. You will find a small 5/16" nut inside the top of the nacelle that holds the chrome "spear" on the outside of the nacelle. Remove the nut and lift the spear up and off (it is hooked into the riser cover). You will then see a small

Figure 1. Once you remove the handlebar lock bezel, you'll need to remove the two screws identified above.

phillips screw that holds the front of the riser cover to the nacelle. Reach inside towards the rear top of the nacelle with a small wrench to secure the nut (and washer), and remove the phillips screw. You should now be able to remove the riser cover.

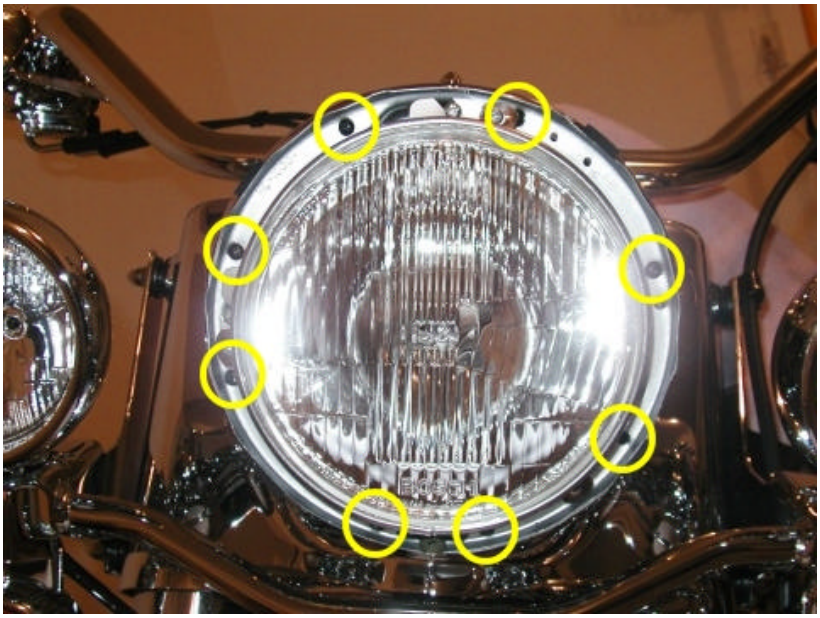

Figure 2. Removing these screws allows you to remove the headlight assembly from the nacelle.

Do yourself a favor and remove the remaining halves of the headlight nacelle before continuing with the handle bar removal. This will give you free and clear access to the electrical harness and connectors. Start by removing the four acorn nuts that hold the passing lamp bar on and carefully lay it onto a thick towel or blanket draped over the front fender (you did protect your fender, didn't you?). Now you can slide off the plastic quick disconnect grommets, and remove the left and right nacelle halves. Carefully hold each half while you locate and unplug the connectors that are attached to the two switches on the back of the nacelle.

Figure 3. Removing the entire headlight nacelle makes the job much easier.

Remove the handlebar harness connectors from the frame clips and unplug the handlebar harness from the main harness.

At this point, your handlebar assembly should be ready to come off. ENSURE your tank is protected when loosening the handlebar clamps. If not supported, the bars will quickly fall (rotate) onto your tank, adding that bit of "character" I mentioned earlier. Loosen and remove the riser clamps, freeing the bars from the riser.

Time for some bench work! Before removing the left and right wiring harnesses from the handlebars, make note of how much wire length you have from the center of the handlebars to the plugs. Depending on your new handlebars and the length of your original wire harness (which can vary somewhat from bike to bike), you may need to extend the lengths of the wires. After you take your measurement, completely remove the left and right harnesses from the old handlebars.

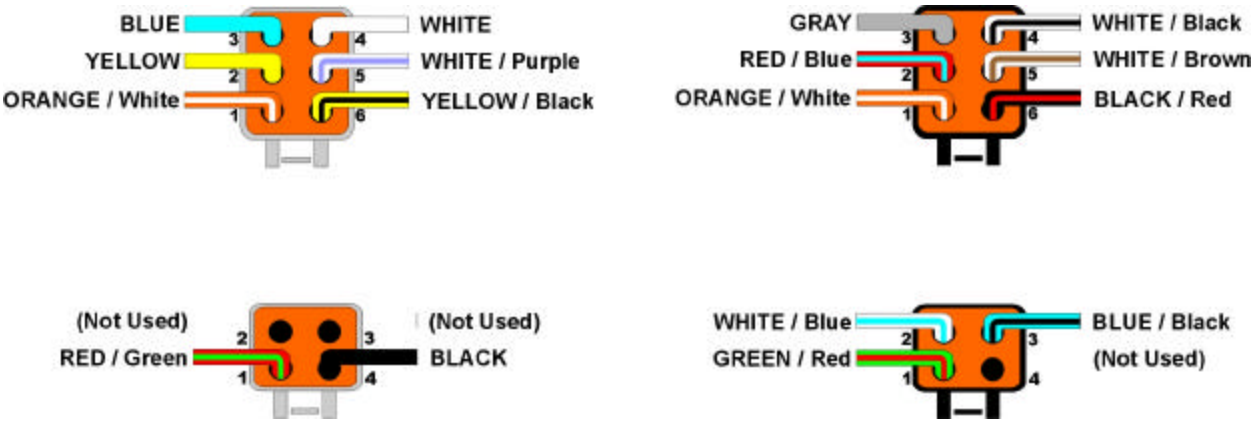

Figure 4. Handlebar harness plug wires as they appear from the *back* of the plug (where the wires enter the plug from the harness).

It's time to do a trial fit of the harness by removing the pins from the connector and feeding the wire harness through the new bars and checking the length of the wiring. Before removing any of the pins from the connectors, check your wiring against figure 4. If your wire colors are different, make note of the differences so you will know where each pin of each harness goes in their respective plugs. This is very important, as you don't want any crossed wires when you go to power everything back up! Pop the rubber caps off the ends of the plugs, and you'll be able to see the individual plastic "hook" tabs alongside each individual pin. With an appropriately small probe (such as an eyeglass screwdriver), push the hook tabs to the inside cavity of the plug to release the pin. (The rubber plug on the back end can easily be worked away from the plug to make pulling the wires easier.)

To run your wires inside the bars, it will help greatly if you first run some string through the bars, and then use the string to pull the wires through. To run your string through the bars, you can tie a small bolt or nut to one end and drop it through or you can try using a shop vacuum to "suck" it through. When pulling your wires through, ensure they will be protected against abrasion, especially at the points where they enter and exit the bars. The stock harnesses should already have a black plastic sleeve on them that keeps them all nicely grouped together. If not, use a long piece of "heat shrink" tubing or wrap the wires in electrical tape to help protect them.

Trial fit your new handlebars onto the bike. How does the length of the harnesses look in relation to the plugs where they will connect? Ensure you will have enough slack in the harnesses so that, when connected, they are not pulled too tightly when turning the handlebars in one direction of the other. If they look long enough, you can skip the following section of lengthening the wires and proceed to the assembly process. Remove the bars and harnesses from the bike and head back over to the workbench.

Lengthening the Harnesses

If the wire length appears to be too short, you will have to lengthen the wires. If that's the case, I must stress that soldering your wires is far superior to using butt splices. Wiring can be pulled from the splices and the splices themselves will take up a lot of room, making your harness bulky.

To extend your wires, ensure the wire segments you are going to splice into the harness are of the same gauge as the original harness. Also, it's a good idea to cut all of the wire segments now, ahead of time, to the same measured length. This will ensure that once all of the new wire

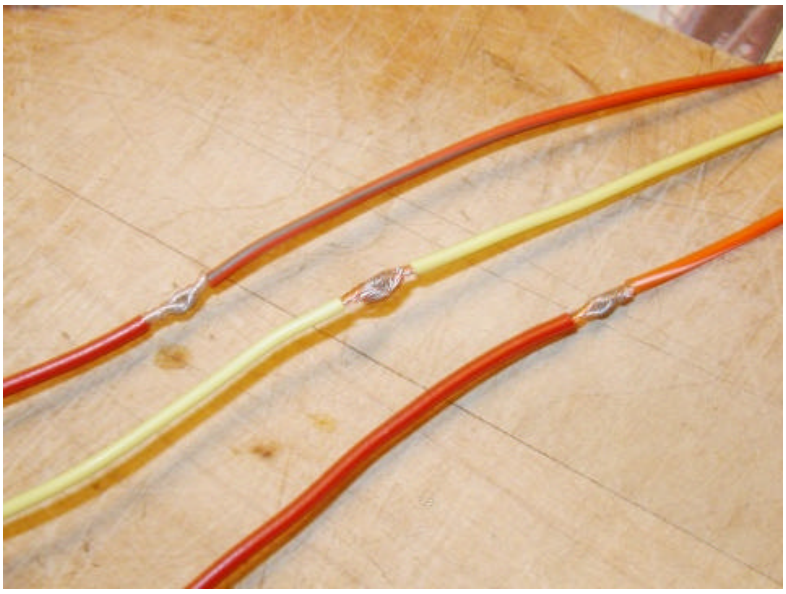

Figure 5. Stagger the locations of your solder joints so they don't create a bulge in the finished harness.

segments are spliced in, all of the finished wires are of the same length and the pins are lined up.

Work from wire to wire, cutting them by staggering the cuts about an inch or so apart (see figure 5). This will prevent a bulge in your harness where all the soldering connections are. After cutting each wire, slide on a two-inch piece of heat shrink tubing before starting your soldering. Remove about ¾" of insulation from the ends of the two wire ends (one wire end being the harness, the other being the segment of new wire being spliced in). Halfway down the length of its exposed section, bend each wire 90 degrees and hook the two wire segments together at the bends. Holding the wires securely with a pair of pliers, twist them in opposite directions around each other. Make sure the ends of the wires are wrapped as tight as possible so their sharp points will not cut through the heat shrink tubing when it's applied. Apply some soldering flux (a little is all you need) and solder the connection by first applying your soldering iron (or gun) to the wire and then applying the solder to the wire. You should not apply the solder directly to the iron as overheating the solder can lead to poorly made solder joints and improper conduction of electricity. When the connection has cooled, slide your heat shrink tubing over the joint and heat it so that the tubing shrinks, making a nice tight seal.

Assembly

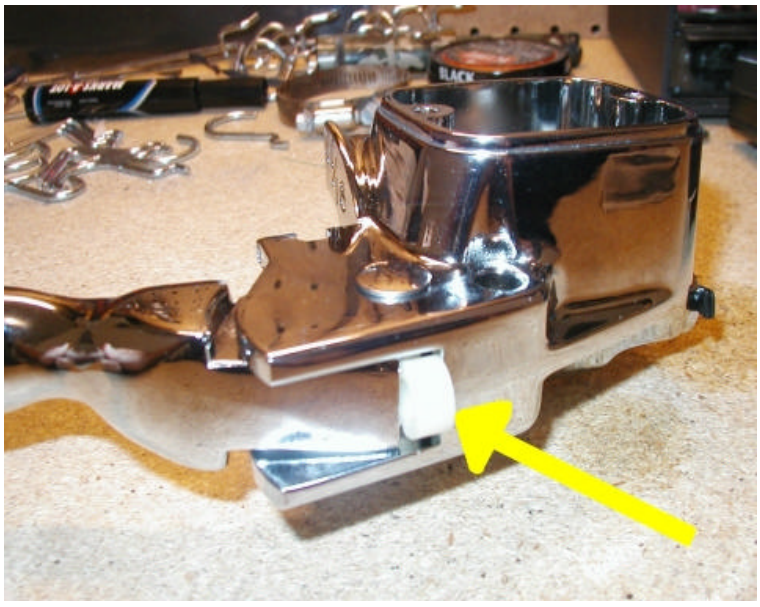

Figure 6. Insert a plastic or wood spacer to prevent the lever from returning to its full-released position; this will prevent damage to the rubber boot of the stop light switch.

With your harnesses long enough, starting with one side, remove the switches from one housing and transfer them to the new housing. Run your wires through the bars, and then carefully reinstall the pins into your plug housings. Using the diagram you made up earlier (as well as your service manual wiring diagrams), make sure you put your pins back into the same holes you pulled them out of.

Once your harnesses are complete, your switches are installed in the housings, the wires are in the bars, and the pins are back in the plugs, it's time to put everything back on the bike. Attach your bars to the risers, position them were you want them and tighten down the riser clamp. Plug your handlebar

harnesses into the main harness.

Attach your clutch cable to the perch assembly and install the perch on the handlebars, followed by the left switch housing, mirror, and grip.

Before installing your brake master cylinder, insert a wood or plastic spacer between the brake lever and lever perch so that the lever cannot return to it's fully released position. This is to prevent inadvertent tearing of the rubber boot surrounding the brake light switch where it sticks out of the switch housing assembly.

Attach your throttle and idle cables to the lower right switch housing (throttle cable in the forward hole so that it "pulls" when rolling back the throttle). Slide your throttle sleeve onto the handlebar and attach the cables to the sleeve using the brass barrels. Loosely join the upper & lower switch housings, ensuring everything is lined up (there's a notch on the housing that fits into a slot on the master cylinder assembly to help you out).

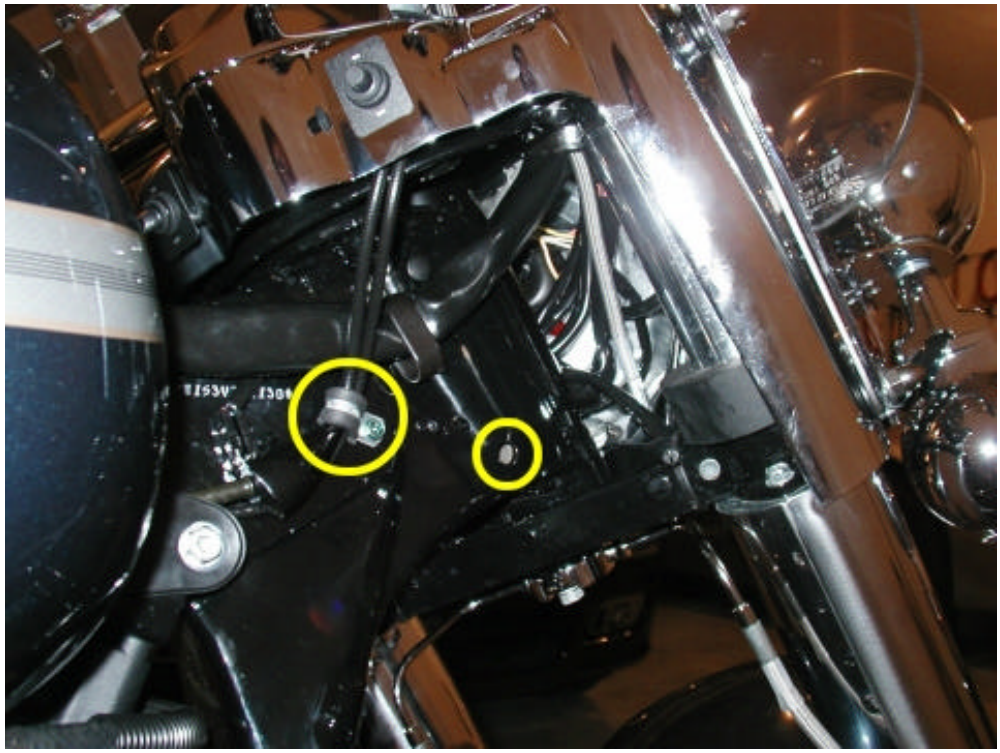

Figure 7. The smaller circle shows the original stock location of the cable clamp. The larger circle shows its new location.

Snug everything down and check the action of the throttle. It should turn freely and snap back to the closed position on its own when you release it. If it doesn't, follow the procedure in your service manual for adjusting the cables. If after adjusting your throttle and idle cables, the throttle still doesn't return freely, you most likely have a tight-enough bend in one or both of the cables causing it to bind against the cable housing. In my particular case, the clamp attaching the cables to the steering neck was too far forward. Due to the extended length of the bars, the cables had to come back farther than stock, resulting in a very tight radius in the cables where they attached to the steering neck at the clamp's stock mounting location. To remedy this, I relocated the clamp about four inches aft so that it was positioned just forward of the cruise control switch on the idle cable. I then routed the cables up into the headlight nacelle, behind the upper triple-tree and out the top of the nacelle in front of the handlebar. From there, I looped them back to the throttle.

Once everything looks lined up, and your throttle moves freely without binding, tighten the switch-housing screws, brake-lever clamp screws, and remove the wood/plastic spacer from the lever. Check to ensure the brake light switch is depressed when the lever is fully released. Install your right mirror and throttle grip (if replacing as part of this installation).

Look everything over one final time. If everything looks good, reinstall the headlight nacelle. When reinstalling the nacelle, notice that the nacelle has a couple of alignment pins, which fit into matching holes during re-assembly. Reconnect each nacelle switch to the switch harnesses. After installing the nacelle, reinstall the four rubber bushings followed by the passing lamp bar, the headlight assembly, and the headlight trim ring. Don't forget the clamp that supports the clutch cable to the left fork.

Install the front brake line assembly and bleed the front brake system according to the steps outlined in the service manual. Reconnect the battery and take your time going through a complete operational check of your turn signals, high/low beams, indicator lights, brake lights, passing lamps, engine starting, etc.

Congratulations on your new handlebars and ride safe!